How to Write a Research Article?

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Why We Write Articles…???

- Report our work
- Add useful information to the pool of knowledge
- Service to humanity/Human welfare
- International repute
- Recognition of your work/Citation (Index)
- Jobs/Career development/Promotion
- Reward (Financial matters)
- Project's evaluation
- Future funding
- Chances of collaboration with other scientists

Attraction for Students

- **Performance evaluation**
- **Financial rewards**
- **Scholarship Opportunities (further studies)**

  National Scholarship (国家奖学金)

  Enterprise scholarship (企业奖学金)

  National Endeavour Fellowship (国家励志奖学金)

  CSC Scholarship (China)

  Endeavour Scholarship (Australia)

  Full Bright Scholarship (USA)

  DAAD Scholarship (Germany)

  TWAS Scholarships

- **Job security**

Types of Research Articles

- **Research Article**
- **Review Article**
- **Letter to Editor (Nature)**
- **Short Communication**
- **Opinion**
- **Career Perspective (HortScience) W.S. Castle**

Research Article

- Title
- Author's list + Affiliation
- Abstract

} Cover Page

- Introduction
- Materials and Methods
- Results
- Discussion
- Conclusion
- Acknowledgement
- References
- Tables and Figures

Cover Page

- Title
- Authors list
- Their affiliation
- Contact details (Email; Phone #)

  2296093@qq.com; azher490@hotmail.com ✖

  azher490@uos.edu.pk; azher490@hzau.edu.cn ✓
- Corresponding authors
- Running title (as short as possible e.g. 60 characters including spaces)
- Key Words (4-6)

Title

- **Simple, attractive, and accurately reflect investigation**
- **Brief and precise**
- **Avoid use of abbreviations (NAA, SDW, DAT etc)**
- **Avoid traditional style**

  Effect of……..

  A study on……
- **Not too long**

Study of SERS Chemical Enhancement Factors Using Buffer Layer Assisted Growth of Metal Nanoparticles on Self-Assembled Monolayers

Masato M. Maitani[†], Douglas A. A. Ohlberg[§], Zhiyong Li[§], David L. Allara[†‡], Duncan R. Stewart[§] and R. Stanley Williams[§]

Publication Date (Web): April 16, 2009 (Communication)
DOI: 10.1021/ja809347y

Which of these two titles make you read the paper?

"Signal-On" Detection of DNA Hole Transfer at the Single Molecule Level

Tadao Takada, Yuichiro Takeda, Mamoru Fujitsuka and Tetsuro Majima*

Publication Date (Web): April 23, 2009 (Communication)
DOI: 10.1021/ja9009919

Plant Soil
DOI 10.1007/s11104-016-2965-3

REGULAR ARTICLE

Improving magnesium uptake, photosynthesis and antioxidant enzyme activities of watermelon by grafting onto pumpkin rootstock under low magnesium

18 Words

Yuan Huang · Yanyan Jiao · Muhammad Azher Nawaz · Chen Chen · Li Liu · Zhen Lu · Qiusheng Kong · Fei Cheng · Zhilong Bie

Received: 17 April 2016 / Accepted: 14 June 2016

Pumpkin grafting improves magnesium uptake, photosynthesis and antioxidant enzyme activities of watermelon

12 Words

Scientia Horticulturae

Volume 204, 2 June 2016, Pages 25–32

Yield responses in Flame seedless, Thompson seedless and Red Globe table grape cultivars are differentially modified by rootstocks under semi arid conditions

Antonio Ibacache[a], Francisco Albornoz[b], , , Andres Zurita-Silva[a]

Trends in Plant Science

Volume 21, Issue 5, May 2016, Pages 418–437

Feature Review

Rootstocks: Diversity, Domestication, and Impacts on Shoot Phenotypes

Emily J. Warschefsky[1, 2], Laura L. Klein[3, 4], Margaret H. Frank[5], Daniel H. Chitwood[5], Jason P. Londo[6], Eric J.B. von Wettberg[1, 2, 7], Allison J. Miller[3, 4, @], ,

frontiers in Plant Science

REVIEW
published: 21 October 2016
doi: 10.3389/fpls.2016.01457

Check for updates

Grafting: A Technique to Modify Ion Accumulation in Horticultural Crops

Muhammad A. Nawaz[1,2], Muhammad Imtiaz[3], Qiusheng Kong[1], Fei Cheng[1], Waqar Ahmed[4], Yuan Huang[1] and Zhilong Bie[1]**

[1] College of Horticulture and Forestry Sciences, Huazhong Agricultural University/Key Laboratory of Horticultural Plant Biology, Ministry of Education, Wuhan, China, [2] Department of Horticulture, University College of Agriculture, University of Sargodha, Sargodha, Pakistan, [3] Microelement Research Center, College of Resources and Environment, Huazhong Agricultural University, Wuhan, China, [4] United States Agency for International Development (USDA) and Cultivating New Frontiers in Agriculture (CNFA), Lahore, Pakistan

Which part is written 1st …???

1) Tables and Figures

2) Results and Discussion

3) Introduction

4) Materials and Methods

5) Abstract/conclusion

6) Other miscellaneous items (acknowledgement, references, formatting etc.)

Abstract/Summary

- **Concentrated form of overall contents/information**

  Background/Introduction

  Materials and methods

  Results

  Conclusion

- **Words (200-250-350)**

Abstract

Background and aims Magnesium (Mg) is an essential macronutrient that plays an important role in numerous physiological and biochemical processes of plant. However, Mg deficiency commonly occurs worldwide. Watermelon is an important crop that often suffers from Mg deficiency. This study aims to test whether watermelon performance can be improved by grafting onto rootstocks under low Mg and to clarify the underlying physiological mechanism.

Methods Self-grafted, bottle gourd (Jingxinzhen No.1) and pumpkin (Jingxinzhen No.4) rootstock-grafted plants were treated with three Mg concentrations: 2.0 mM (normal condition), 0.4 mM (moderate stress), and 0.04 mM (severe stress) for 16 days under hydroponic conditions. Ungrafted watermelon and pumpkin were treated with 2.0 mM and 0.04 mM for 12 days.

Results The growth of the plants was not affected by 0.4 mM Mg; however, plant growth decreased under 0.04 mM Mg in all graft combinations compared with control (2.0 mM Mg). Pumpkin rootstock grafting significantly increased watermelon growth under low Mg stress (0.04 mM Mg), compared with self-grafted and bottle gourd-grafted plants. The Mg^{2+} uptake of watermelon plants was increased by grafting onto pumpkin rootstocks, however, root-to-shoot transport capacity of Mg^{2+} was similar compared with self-grafted plants under 0.04 mM Mg. Gene expression analysis showed that magnesium transporter genes *MGT1*, *MGT3*, *MGT4*, and *MGT5* may play an important role in higher Mg^{2+} uptake of pumpkin root. The photosynthetic parameters and activities of superoxide dismutase, peroxidase and catalase were significantly higher, but malonaldehyde (MDA) content were lower in the pumpkin rootstock grafted plants compared with other graft combinations under 0.04 mM Mg.

Conclusion Our results provide strong evidence that pumpkin rootstock 'Jinxinzhen No. 4' grafting can improve watermelon performance under low Mg stress. The enhanced plant performance is attributed to higher root Mg^{2+} uptake and the improvement of photosynthesis and antioxidant enzyme activities.

Yuan Huang and Yanyan Jiao contributed equally to this paper

Introduction

Very Important

Justification of the importance/significance of your work (reviewers should feel that your work is important, and needs to be published)

Structure

The background and current status, the existing problems, the hypothesis of your approach to solve the problem, the aim of the your research

Length

Commonly 2 pages, Letter size paper, double line, 1’ margin

Materials and Methods

Clear flow

Have the same sequence as you did your work

Clear detail

Other people can get same results if follow your descriptions

Basic Principle
(Overall article)

- **"Find two or three major findings out of your data; and then all the draft/article/story is written to prove those findings"**

Results

- **Write whatever you got from the study**
- **What your data say? Write it in the form of story**
- **Can be divided into different sub-sections (Plant growth; Fruit Quality; Gene expression results)**
- **Avoid repetition of same information, write in different way [(0.2 mM N, FW/P 20g; 4.5 mM N FW/P 35 g)……..write FW increased by 75% compared with control (0.2 mM N)]**

Results (Cont.)

- **Write overall trends**
- **Focus/highlight if something is important or very special in your results**

Discussion

- You got a result…..here you logically prove why it happened? How it become possible? What is the reason behind it?
- Compare your results with previous studies…….both in support and contradiction

- **Recently, plant growth regulators especially synthetic auxin such as NAA, 2,4-D are used as thinning agent in the form of foliar spray for many fruit crops to improve fruit size and fruit quality (Monselise, 1979).**

- **Recently, plant growth regulators especially synthetic auxin such as NAA, 2,4-D etc. are used as thinning agent in the form of foliar spray for many fruit crops to improve fruit size and fruit quality (Monselise, 1979).**

Discussion (Cont.)

- **Avoid too old references**

  2016 → **1985**

  2016 → **2008, 2011**

Exceptions: MEL was discovered in 1950's

Auxin was discovered in 1940's

Conclusion

- Write major results, and what you concluded from your study
- Future direction can be provided

Acknowledgement

- Funding agency
- Scientists who helped/guided you

References

Complete list, Format

Publication Process

- **Submission**
- **Seen by Editor**
- **Review [2 Reviewers; some J 3 (HortScience)]**
- **Revision**
- **Author Proof**
- **Publication**

Selection of Journal, Formatting,
Submission,
Review Process, Reviewer's reply

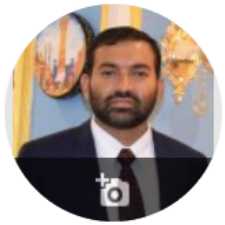
(Separate PPT)

Highlight Your Scientific Work

- www.researchgaet.com
- www.googlescholar.com
- www.academia.edu

(33) WhatsApp | Dr. Muhammad Azher Nawaz - G

scholar.google.com/citations?user=Uf3-n_QAAAAJ&hl=en



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FOLLOW

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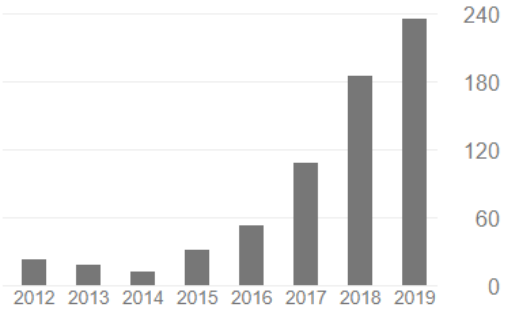
Agriculture Horticulture Vegetable Grafting Vegetable Physiology and …

TITLE	CITED BY	YEAR
Melatonin: current status and future perspectives in plant science MA Nawaz, Y Huang, Z Bie, W Ahmed, RJ Reiter, M Niu, S Hameed Frontiers in plant science 6, 1230	97	2016
Role of growth regulators on preharvest fruit drop, yield and quality in Kinnow mandarin MA Nawaz, W Ahmad, S Ahmad, MM Khan Pak. J. Bot 40 (5), 1971-1981	82	2008
Effect of stionic combination on the growth and yield of kinnow mandarin (Citrus reticulata blanco) W Ahmed, MA Pervez, M Amjad, M Khalid, CM Ayyub, MA Nawaz Pakistan Journal of Botany 38 (3), 603	61	2006
Silicon occurrence, uptake, transport and mechanisms of heavy metals, minerals and salinity enhanced tolerance in plants with future prospects: a review	47	2016

Cited by VIEW ALL

	All	Since 2014
Citations	704	635
h-index	15	14
i10-index	18	17



Co-authors EDIT

Mumtaz Khan
Sultan Qaboos university Oman

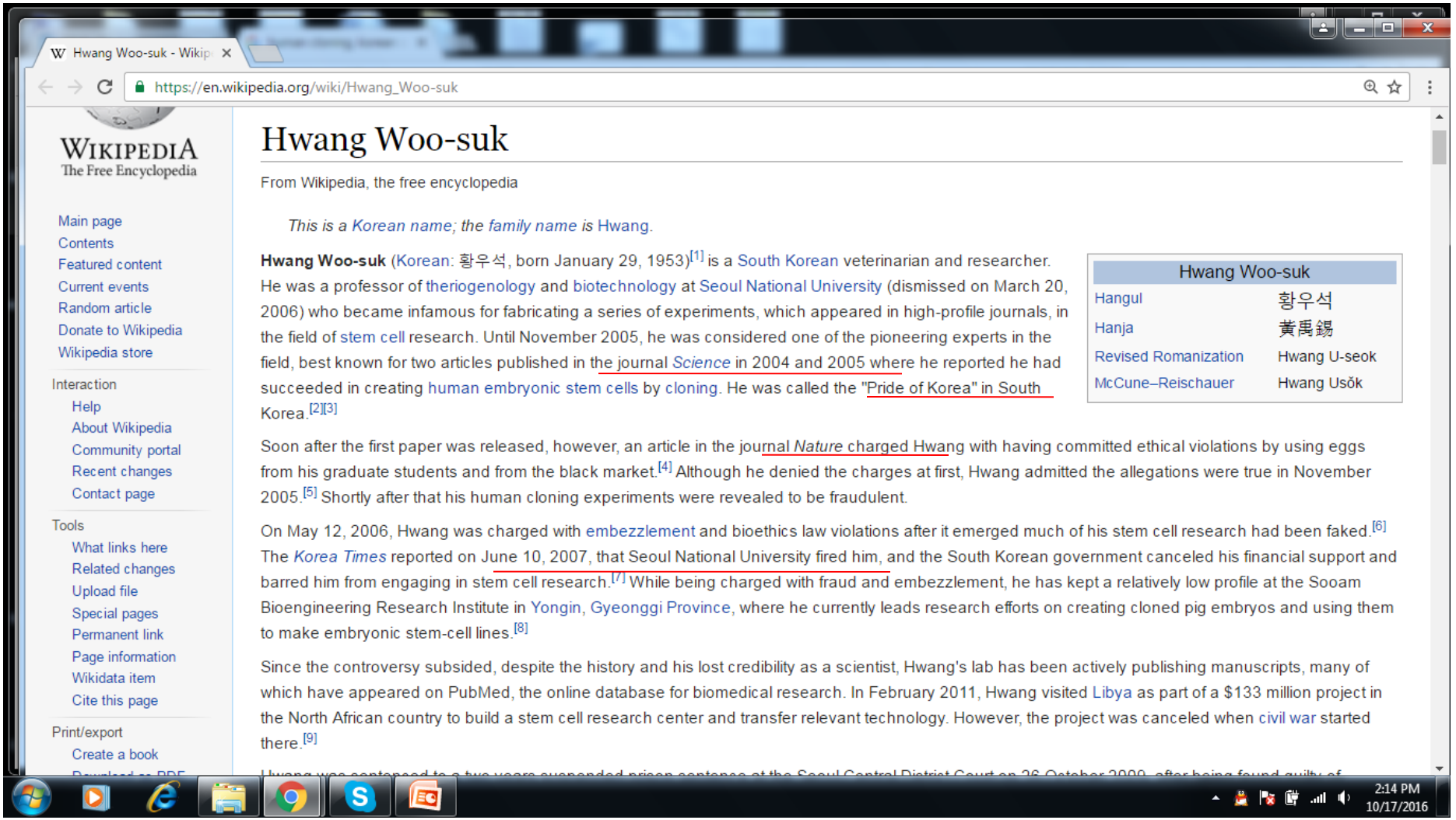
Dr. Basharat Ali Saleem
Punjab Agriculture Department_...

Type here to search

8:06 PM
12/10/2019

Publication Ethics

- **Never copy & paste anything (Plagiarism)**
- **Always provide reference**
- **Data fabrication/false data*****
- **You may face serious threats/problems**



https://en.wikipedia.org/wiki/Hwang_Woo-suk

retractionwatch.com

Written by Ivan Oransky
October 14th, 2016 at 8:30 am

Posted in AAAS,duplication retractions,freely available,image manipulation,olivier voinnet,Plant biology,science (journal),science (journal) retractions

Macchiarini paper in Nature journal earns expression of concern for data questions

without comments

Nature Communications has issued an expression of concern for a 2014 paper by beleaguered surgeon Paolo Macchiarini, citing concerns over whether the paper accurately reports the experiments that were carried out.

According to the notice, Macchiarini, a former rising star in the field of transplant medicine, agrees with the expression of concern. Three of his 22 co-authors have objected.

"Experimental orthotopic transplantation of a tissue-engineered oesophagus in rats" describes transplanting an esophagus into rats that was seeded with their own stem cells, and notes that all animals survived the study period (14 days), and gained more weight than rats given a placebo operation. It's a topic Macchiarini has made famous, as the first surgeon to perform a similar procedure with a human tracheal transplant. But he's faced charges of misconduct in the last few years, resulting in his dismissal from Karolinska Institutet (KI).

Here's the text of the notice, scheduled to go live at 10 a.m. UK time today: Read the rest of this entry »

retractionwatch.com

Parkinson's researcher with three retractions heads to court on Monday

with 7 comments

On Monday, Parkinson's researcher Caroline Barwood will head to court in Brisbane, Australia, following a probe at her former institution, the University of Queensland (UQ).

Barwood was granted bail in November, 2014 — charges included that she "dishonestly applied for grant funds," and fabricated research that claimed a breakthrough in treating Parkinson's disease, according to *The Guardian*. In March, Bruce Murdoch, a former colleague of Barwood's at UQ, pleaded guilty to 17 fraud-related charges, and received a two-year suspended sentence after an institutional investigation into 92 academic papers.

We contacted Barwood about the upcoming trial, but she told us Read the rest of this entry »

Caroline Barwood

retractionwatch.com

October 13th, 2016 at 2:00 pm | data,freely available,investigator error,jama internal medicine,methodological problems,society journal retractions,united states

Cancer researcher earns 5th retraction after misconduct finding

with 2 comments

A cancer researcher has logged her fifth retraction following an investigation that concluded she had committed scientific misconduct.

We've previously reported on four retractions of papers by Stephanie Watkins, a researcher at Loyola Medicine. The previously issued notices — in *The Journal of Clinical Investigation* and *Cancer Research* — note that an investigation committee appointed by the National Institutes of Health (NIH) found Watkins to be solely responsible for the misconduct, with none of the co-authors aware of it.

The editor of *OncoImmunology* previously informed us that the journal was investigating another one of Watkins' papers; the journal has now pulled that paper, citing "fabrication and falsification of data" in the original studies referenced in the paper.

Here's the retraction notice, published online earlier this year: Read the rest of this entry »

www.retractionwatch.com

Suggestions

- **Techniques/software/writing aids**

  Reference manager/Endnote/Mendeley etc.

  Photoshop/Adobe Photoshop etc.

- **Some lab mates know how to use, they should teach others (we are a community)**
- **Too much focus on research trials compared with write up (needs to be balanced; 30-50%)**
- **Our lab may focus on write up; we have lot of data; we can enhance number of publications**


NEVER
GIVE UP.
GREAT
THINGS
TAKE
TIME.
REPIN
IF YOU AGREE

Thank You

谢谢